

Appl. No. : 09/611,177
Filed : July 6, 2000

AMENDMENTS TO THE CLAIMS

WHAT IS CLAIMED IS:

~~1-17~~ (Canceled)

18. (Currently Amended) A method of modifying a flight pattern of a remote controlled aircraft onboard said aircraft, comprising:

reading control signals from a transmitter;

reading positioning signals corresponding to a current attitude of said aircraft from a ~~positioning module~~ two-axis accelerometer that measures a directional component of the acceleration of gravity to determine the current attitude of the aircraft, wherein said positioning signals further comprise pulse width modulated signals;

determining, based on said current attitude, if said control signals will place said aircraft in a flight or pattern outside of a set of defined performance parameters; and modifying said control signals so that said flight pattern is within said set of defined

performance parameters.

19. (Previously Amended) The method of Claim 18, wherein modifying said control signals comprises modifying said control signals so that said aircraft begins a straight and level flight.

20. (Previously Amended) The method of Claim 18, wherein modifying said control signals comprises modifying said control signals so that said airplane does not turn with an angle of greater than a preset number of degrees.

21. (Original) The method of Claim 20, wherein said preset number of degrees is selected from the group consisting of 20, 30, 40, 50, 60, 70, 80 and 90 degrees.

22. (Currently Amended) The method of Claim 20, wherein said positioning signals are generated by an accelerometer that comprises an inclinometer.

23. (Previously Amended) The method of Claim 20, wherein said control signals comprise pulse-width modified signals.

24. (Currently Amended) A control system in a remote-controlled aircraft, comprising:

a receiver for receiving control signals from a transmitter;

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ES
amended

a positioning module comprising an accelerometer that provides positioning signals representing the attitude of said remote control aircraft determined from a directional component of gravitational acceleration; and
a control module that receives said control signals and said positioning signals, and is adapted to output modified control signals to at least one flight control system of said remote-controlled aircraft based on both said received control signals and said received positioning signals.

E6

25. (Previously Added) The control system of Claim 24, wherein said control signals and said modified control signals are pulse-width modulated signals.

26. (Previously Added) The control system of Claim 24, wherein said control module comprises a microcontroller or a microprocessor.

27. (Previously Amended) The control system of Claim 24, wherein said aircraft flight control system is selected from the group consisting of: a servo, an engine, a rudder, an aileron and an elevator.

E7

28. (Currently Amended) The control system of Claim 24, wherein said positioning module comprises an accelerometer comprising an inclinometer.

29. (Previously Amended) The control system of Claim 24, wherein said control module is further adapted to provide modified guidance signals to said flight control system that place said aircraft in straight and level flight.

30. (Previously Amended) The control system of Claim 24, wherein said control module is further adapted to provide modified guidance signals to said at least one flight control system that result in said aircraft entering a predetermined flight pattern.

E8

31. (Previously Added) The control system of Claim 24, wherein said modified control signals comprise pulse-width modulated signals that are aligned along a leading edge of said modulated signals.

32. (Previously Amended) The control system of Claim 24, wherein said control module comprises instructions that are stored in a memory.

E9

33. (Previously Amended) The control system of Claim 32, wherein said memory is selected from the group consisting of a Random Access Memory (RAM), a Read Only Memory (ROM), an Erasable Programmable Read Only Memory (EPROM) and an Electrically Erasable Programmable Read Only Memory (EEPROM).

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34. (Currently Amended) A system for preventing crashes of a remote controlled aircraft, comprising:

a receiver for receiving control signals from a transmitter;

E10 a positioning module comprising an accelerometer that measures a directional component of the gravitational force to that provides-provide positioning signals representing an attitude of the remote controlled aircraft; and

a control module adapted to read said control signals and said positioning signals to output modified control signals to at least one flight control system of said remote controlled aircraft in order to reduce a risk of crashing said aircraft.

35. (Currently Amended) A system in a remotely controlled aircraft for preventing crashes, comprising:

a receiver for receiving control signals from a transmitter;

E11 a positioning module that provides positioning signals representing an attitude of the remote controlled aircraft by measuring a component of a static acceleration; and

a control module adapted to read said control signals and said positioning signals and further adapted to output modified control signals to at least one flight control system of said remote controlled aircraft in order to reduce a risk of crashing said aircraft.

36. (Previously Added) The system of Claim 34, wherein said control module comprises a microcontroller or a microprocessor.

37. (Previously Added) The system of Claim 34, wherein said at least one aircraft flight control system is selected from the group consisting of: a servo, an engine, a rudder, an aileron and an elevator.

38. (Currently Amended) The system of Claim 34, wherein said positioning module comprises an accelerometer that comprises an inclinometer.

39. (Previously Added) The system of Claim 34, wherein said modified control signals being sent to said flight control system place said aircraft in straight and level flight.

40. (Previously Added) The system of Claim 34, wherein said modified control signals being sent to said flight control system place said aircraft in a level flight circular pattern.